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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,201	10/06/2005	Wei Huang	7035812001-3221000	5242

7590 02/13/2009
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EXAMINER

YOON, TAE H

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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02/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,201	Applicant(s) HUANG ET AL.	
	Examiner Tae H. Yoon	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-22, 24-27, 30-36, 39-49 and 51-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-22, 24-27, 30-36, 39-49 and 51-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The specification is objected since "Brief Description of the Figures" failed to mention Tables.

Again, an insertion of the continuing data with respect to PCT in the beginning of specification is needed.

The recited "a o-cresol" in claim 18 should be "an o-cresol". The recited "the cresol" in claim 19 should be "the o-cresol".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22, 27, 34, 35 and 39-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited PGMEA in claim 22 is indefinite since a full chemical name is needed at least in a first occurrence.

Claims 27, 34 and 35 are dependent on cancelled claim 23, and thus they are indefinite.

Claim 39 (and 40-42) failed to further limit claim 36 wherein "at least two solvents" is already recited, and thus it is indefinite. The recited "an alcohol-based solvent" in claim 40 (and 41) improperly broadens scope of claim 39 wherein "alcohol" is recited and thus it is indefinite. The recited language for solvents (except a combination thereof) in claim 42 encompasses a single solvent, and thus it is confusing and indefinite since claim 39 requires at least two solvents.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-21, 24-27, 30-36, 39-49 and 51-55 are rejected under 35

U.S.C. 103(a) as obvious over SU 1364051 A1 in view of Drage (US 5,858,547) and Arias et al (US 2003/0165774 A1).

English abstract of SU teach a solution of a positive photoresist composition and a coated film thereof. Said photoresist composition comprises a novolac phenol, a resol phenol and solvents (n-butyl alcohol and dioxane). Said solution inherently lower the recited forces or are compatible with novolac polymer since said solvents form solutions (incompatible solvent(s) would not form a solution) and since similar components are used.

The instant invention differs from SU in that it further recites o-cresol based polymer, a surfactant and ether-acetate based solvent. However, the instant solvents are well known for their use with novolac resin as taught by Drage (col. 5, lines 4-25 wherein the instant ether acetate and n-propyl alcohol are seen). Drage also teaches o-cresol novolac resin and surfactant at col. 4, and said novolac phenol of SU would encompass said o-cresol novolac resin of Drage. Arias et al teach advantages of using a surfactant with a novolak resin in PP [0039] such as avoiding imperfections and the appearance of voids on the layer.

Thus, it would have been obvious to one skilled in the art at the time of invention to utilize the art well known o-cresol novolac resin, a solvent system and surfactant of Drage in SU since SU teaches a novolac resin and a mixed solvents system and thus use of the any art well known novolac resin such as o-cresol novolac resin and a solvent mixture such as n-propyl alcohol and ether-acetate of Drage would be a *prima facie* obviousness and since advantages of using a surfactant with a novolak resin such as avoiding imperfections and the appearance of voids on the layer are well known as taught by Arias et al and such use is a common practice as also taught by Drage absent showing otherwise.

Claims 18-22, 24-27, 30-36, 39-49 and 51-55 are rejected under 35 U.S.C. 103(a) as obvious over SU 1364051 A1 in view of Drage (US 5,858,547) and Arias et al (US 2003/0165774 A1), and further in view of Rahman et al (US 5,928,836)..

Claim 22 further recites PGMEA over SU, Drage and Arias et al. Drage teaches a homolog of said PGMEA at col. 5, lines 13-14, propylene glycol monoethyl ether acetate.

Rahman et al teach various solvent including the instant PGMEA at col. 4, lines 14-31.

Thus, it would have been obvious to one skilled in the art at the time of invention to further utilize the art well known PGMEA of Rahman et al in SU, Drage and Arias et al thereof since said PGMEA is well known solvent for novolac resins and since Drage

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teaches a homolog of said PGMEA which is expected to act in same or similar manner (dissolve said resins) absent showing otherwise.

Claims 18-21, 24-27, 30-36, 39-49 and 51-56 are rejected under 35 U.S.C. 103(a) as obvious over SU 1364051 A1 in view of Drage (US 5,858,547) and Arias et al (US 2003/0165774 A1), and further in view of McCutcheon et al (US 2007/0105384 A1) or Patil et al (US 2003/0207209 A1).

Claim 56 further recites UV curing over SU, Drage and Arias et al.

Thus, it would have been obvious to one skilled in the art at the time of invention to further utilize the art well known UV curing method of McCutcheon et al or Patil et al in SU, Drage and Arias et al thereof since a curing of a photoresist composition with UV is a common and well known practice as taught by McCutcheon et al and Patil et al absent showing otherwise.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tae H Yoon/
Primary Examiner
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THY/February 11, 2009